

EXHIBIT

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1 UNITED STATES DISTRICT COURT
2 EASTERN DISTRICT OF TENNESSEE

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4 ULTIMA SERVICES CORPORATION,
5 Plaintiff,
6 No. 2:20-cv-00041-DCLC-CRW
7 -against-

8 U.S. DEPARTMENT OF AGRICULTURE, U.S.
9 SMALL BUSINESS ADMINISTRATION, SECRETARY
10 OF AGRICULTURE, and ADMINISTRATOR OF THE
11 SMALL BUSINESS ADMINISTRATION,

12 Defendants.

13 - - - - -x

14 March 7, 2022
15 10:03 a.m. (EST)

16 DEPOSITION of Dr. Jon Wainwright, the
17 Expert Witness in the above-entitled
18 action, held at the above time and place,
19 taken before Garry J. Torres, a
20 Stenographer and Notary Public of the
21 State of New York, pursuant to the Federal
22 Rules of Civil Procedure, Notice and
23 stipulations between Counsel.

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<p style="text-align: right;">Page 2</p> <p>1 APPEARANCES:</p> <p>2</p> <p>3 CENTER FOR INDIVIDUAL RIGHTS</p> <p>4 Attorneys for Plaintiff</p> <p>5 ULTIMA SERVICES CORPORATION</p> <p>6 1100 Connecticut Ave, NW</p> <p>7 Suite 625</p> <p>8 Washington, D.C. 20036</p> <p>9 TEL: (202) 833-8400</p> <p>10 EMAIL: scott@cir-usa.org</p> <p>11 BY: MICHAEL E. ROSMAN, ESQ.</p> <p>12</p> <p>13 CHRISTINE DINAN, ESQ.</p> <p>14 Attorneys for Defendants</p> <p>15</p> <p>16 ALSO PRESENT:</p> <p>17</p> <p>18 MICHELLE SCOTT</p> <p>19 ANDREW BRANIFF</p> <p>20 K'SHAANI SMITH</p> <p>21 JULIET GRAY</p> <p>22 * * *</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 4</p> <p>1 JON WAINWRIGHT, the Expert</p> <p>2 Witness herein, having first been duly</p> <p>3 sworn by the Notary Public, was examined</p> <p>4 and testified as follows:</p> <p>5 MR. ROSMAN: Dr. Wainwright, I'm</p> <p>6 Michael Rosman. I'm the -- one of the</p> <p>7 attorneys for the plaintiff in this</p> <p>8 case. I'll be asking you a series of</p> <p>9 questions which you should wait 'til I</p> <p>10 finish the question and then answer.</p> <p>11 If you don't understand a question</p> <p>12 that I've asked please feel free to</p> <p>13 let me know on what you don't</p> <p>14 understand and I might choose to</p> <p>15 rephrase it.</p> <p>16 If we need to take break at</p> <p>17 points or we will need to take a break</p> <p>18 at points, but if you need to take a</p> <p>19 break at points let us know and I'll</p> <p>20 try to find an appropriate spot to do</p> <p>21 that.</p> <p>22 You have been deposed before,</p> <p>23 sir?</p> <p>24 THE WITNESS: Yes.</p> <p>25 MR. ROSMAN: All right. I'm</p>
<p style="text-align: right;">Page 3</p> <p>1 STIPULATIONS</p> <p>2 IT IS HEREBY STIPULATED AND AGREED, by</p> <p>3 and among counsel for the respective</p> <p>4 parties hereto, that the filing, sealing</p> <p>5 and certification of the within deposition</p> <p>6 shall be and the same are hereby waived;</p> <p>7 IT IS FURTHER STIPULATED AND AGREED</p> <p>8 that all objections, except as to form of</p> <p>9 the question, shall be reserved to the</p> <p>10 time of the trial;</p> <p>11 IT IS FURTHER STIPULATED AND AGREED</p> <p>12 that the within deposition may be signed</p> <p>13 before any Notary Public with the same</p> <p>14 force and effect as if signed and sworn to</p> <p>15 before the Court.</p> <p>16 * * *</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 5</p> <p>1 going to try to introduce your CV.</p> <p>2 You have a copy of it though, right?</p> <p>3 THE WITNESS: I do.</p> <p>4 MR. ROSMAN: Okay. Let me see</p> <p>5 if this -- I'm new to this virtual.</p> <p>6 Now, can everybody else -- I tried to</p> <p>7 introduce the CV as an exhibit as</p> <p>8 Exhibit 1. Does everybody else have</p> <p>9 that available to them now?</p> <p>10 MS. DINAN: No, it's not showing</p> <p>11 up on any of my screens.</p> <p>12 MR. ROSMAN: It says my exhibit</p> <p>13 has been introduced.</p> <p>14 (Whereupon, an off-the-record</p> <p>15 discussion was held.)</p> <p>16 MR. ROSMAN: Why don't we just</p> <p>17 go through some of your background,</p> <p>18 Dr. Wainwright, and we'll worry about</p> <p>19 the introduction of the exhibit at</p> <p>20 some point.</p> <p>21 EXAMINATION</p> <p>22 BY MR. ROSMAN:</p> <p>23 Q. What is your name?</p> <p>24 A. Jon Wainwright.</p> <p>25 Q. Where do you reside?</p>

<p style="text-align: right;">Page 22</p> <p>1 A. Okay.</p> <p>2 Q. So you were given the complaint</p> <p>3 and other relevant litigation documents by</p> <p>4 the defendants. What other documents did</p> <p>5 they give you?</p> <p>6 A. They had collected a number of</p> <p>7 disparity studies that have been published</p> <p>8 in recent years and provided me those. I</p> <p>9 believe that's -- I believe at the outset</p> <p>10 I believe that was everything they</p> <p>11 provided.</p> <p>12 Q. Okay. Were you given additional</p> <p>13 disparity studies later on?</p> <p>14 A. I was not given any additional</p> <p>15 disparity studies later on.</p> <p>16 Q. Were you given any additional</p> <p>17 documents or information later on?</p> <p>18 A. Yeah. I think at one point I</p> <p>19 was given a -- I don't even know what to</p> <p>20 call it. I was given a document that the</p> <p>21 defendants are or have published in the</p> <p>22 federal register. Christine maybe can</p> <p>23 tell you what that was.</p> <p>24 I believe I was given a copy of</p> <p>25 another expert's -- another defense</p>	<p style="text-align: right;">Page 24</p> <p>1 bringing all the data in from the studies</p> <p>2 and putting it together in a form that was</p> <p>3 accessible. So I mean all those hours</p> <p>4 went into that.</p> <p>5 Q. Okay. Did you review the report</p> <p>6 carefully before submitting it to the</p> <p>7 Department of Justice?</p> <p>8 A. I certainly tried.</p> <p>9 Q. Okay. How many times did you</p> <p>10 review it?</p> <p>11 A. I don't know that I counted --</p> <p>12 you know, that's once all the way through,</p> <p>13 this is twice all the way through. I</p> <p>14 don't know that I counted it that way.</p> <p>15 Q. Would a lot be a fair</p> <p>16 characterization?</p> <p>17 A. I'm not sure what you're asking.</p> <p>18 Q. I'm just trying to understand</p> <p>19 how carefully you reviewed the report</p> <p>20 before you submitted it, that's all. It's</p> <p>21 not a trick question.</p> <p>22 A. As carefully as I could.</p> <p>23 Q. Okay. Did you work -- I'm</p> <p>24 sorry. Were you done with that answer?</p> <p>25 A. Yes.</p>
<p style="text-align: right;">Page 23</p> <p>1 expert's report from the Rothy case. I</p> <p>2 think that's it.</p> <p>3 Q. I just want to make sure I</p> <p>4 understand what you said. Were you given</p> <p>5 a defendant's expert from the Rothy case?</p> <p>6 A. Yes.</p> <p>7 Q. Okay. That was the same Rothy</p> <p>8 case that you referred to previously; is</p> <p>9 that right?</p> <p>10 A. I believe so, yes.</p> <p>11 Q. Okay. I think you said that you</p> <p>12 were being paid \$600 per hour for your</p> <p>13 work in this case; is that right?</p> <p>14 A. Yes.</p> <p>15 Q. Not that you said it, but that</p> <p>16 you are being paid \$600 per hour?</p> <p>17 A. Yes.</p> <p>18 Q. How many hours have you worked</p> <p>19 so far?</p> <p>20 A. About 300.</p> <p>21 Q. How long did it take for you to</p> <p>22 write the report?</p> <p>23 A. About 299. No. Well, all of</p> <p>24 that went into writing the report. I mean</p> <p>25 I couldn't have written the report without</p>	<p style="text-align: right;">Page 25</p> <p>1 Q. Did you work with anyone else in</p> <p>2 creating the report?</p> <p>3 A. No.</p> <p>4 Q. So did -- the government gave</p> <p>5 you a bunch of disparity studies for you</p> <p>6 to review. Did you make a selection among</p> <p>7 those studies?</p> <p>8 A. Only if there was a study on</p> <p>9 that list that turned out to be unusable.</p> <p>10 Q. Were there?</p> <p>11 A. On the list of the studies that</p> <p>12 DOJ provided me I'm not sure, but there</p> <p>13 probably were one or two.</p> <p>14 Q. Okay. Do you remember which of</p> <p>15 those were unusable?</p> <p>16 A. Without looking it up, I</p> <p>17 couldn't tell you names and dates, but</p> <p>18 there were several that were just</p> <p>19 availability studies. So they -- you</p> <p>20 couldn't pull a disparity statistic out of</p> <p>21 them. So those were unusable for my</p> <p>22 purposes.</p> <p>23 There were a couple that weren't</p> <p>24 actually contracting disparity studies. I</p> <p>25 think one was a workforce study so that</p>

<p style="text-align: right;">Page 86</p> <p>1 statistical significance?</p> <p>2 A. Some of them probably were, but</p> <p>3 that's not presented in the table.</p> <p>4 Q. And I take it all of the NERA</p> <p>5 studies that are included in table 2.8 at</p> <p>6 least use the same methodology for</p> <p>7 calculating disparity indexes or ratios;</p> <p>8 is that right? I'm sorry.</p> <p>9 A. Is all the NERA studies?</p> <p>10 Q. Sorry?</p> <p>11 A. The same methodology --</p> <p>12 Q. There were 21 NERA studies</p> <p>13 included in table 2.8, right?</p> <p>14 A. No. I don't know if all 21</p> <p>15 studies had those particular categories</p> <p>16 but that would be the most that could be</p> <p>17 and -- but all the NERA studies use,</p> <p>18 basically, the same approach to measuring</p> <p>19 disparity.</p> <p>20 Q. That's what I was asking. Thank</p> <p>21 you. So -- and just make sure I</p> <p>22 understand the numbers here. In the</p> <p>23 employment services category there was</p> <p>24 54 percent of the disparities for</p> <p>25 minorities were less than a hundred and</p>	<p style="text-align: right;">Page 88</p> <p>1 A. I pulled out data for everybody</p> <p>2 from the reports.</p> <p>3 Q. Right.</p> <p>4 A. So I -- yes.</p> <p>5 Q. Okay. So why didn't you include</p> <p>6 observations including nonminority,</p> <p>7 female-owned companies in tables 2.2</p> <p>8 through 2.8?</p> <p>9 A. My understanding is they're not</p> <p>10 relevant to the 8(a) program.</p> <p>11 Q. So I guess the question I want</p> <p>12 to ask as a follow up is this: When you</p> <p>13 see disparities in a group that includes</p> <p>14 women, how do you know that disparities</p> <p>15 are not caused by sex instead of race?</p> <p>16 A. Not sure I understand the</p> <p>17 question.</p> <p>18 Q. Okay. Let me see if I can think</p> <p>19 of a better way to phrase it. Let me try</p> <p>20 it this way: So when you see in table 2.2</p> <p>21 that there was a 78 percent of the</p> <p>22 disparities that you observed for Asians</p> <p>23 were less than or equal to 80 whereas only</p> <p>24 7 percent of the disparities you observed</p> <p>25 for nonminority males were less than or</p>
<p style="text-align: right;">Page 87</p> <p>1 61 percent of the disparities for</p> <p>2 nonminorities males were less than a</p> <p>3 hundred; is that right?</p> <p>4 A. That is correct.</p> <p>5 Q. I think you've sort of answered</p> <p>6 this before but I'm going to ask it</p> <p>7 anyway, does any of the underlying studies</p> <p>8 for table 2.8 account for any other</p> <p>9 factors that may account for the</p> <p>10 disparities, like capacity?</p> <p>11 A. What do you mean by "capacity"?</p> <p>12 Q. The ability of a firm to do</p> <p>13 larger contracts?</p> <p>14 A. Measured how? No.</p> <p>15 Q. You may not have -- you may have</p> <p>16 decided not to measure it. I'm just</p> <p>17 asking whether you made any effort to do</p> <p>18 so?</p> <p>19 A. I don't know that it could be</p> <p>20 measured but that is not part of our</p> <p>21 availability measure.</p> <p>22 Q. Okay. All right. When you did</p> <p>23 the coding, you did do coding for</p> <p>24 nonminority, women-owned companies,</p> <p>25 correct?</p>	<p style="text-align: right;">Page 89</p> <p>1 equal to 80, how do you know that isn't</p> <p>2 caused by the fact that there's</p> <p>3 discrimination against woman-owned firms,</p> <p>4 which were included in the Asian category</p> <p>5 but not in the nonminority male category?</p> <p>6 A. Because then the -- my</p> <p>7 regression analyses in the final section</p> <p>8 of the document would show coefficients</p> <p>9 that are neither large or adverse nor</p> <p>10 insignificant for minorities and the</p> <p>11 opposite for by sex and they do not. I'll</p> <p>12 leave it at that.</p> <p>13 Q. That's fine, but I just</p> <p>14 want -- let's say I didn't have those</p> <p>15 other parts of your study, how would I</p> <p>16 know that the differences that we're</p> <p>17 seeing here in the numbers weren't caused</p> <p>18 by the inclusion of woman-owned firms in</p> <p>19 the Asian categories and their exclusion</p> <p>20 in the nonminority male category?</p> <p>21 A. I think that's exactly how you</p> <p>22 do know is you turn to other evidence that</p> <p>23 allows you to tease out those factors.</p> <p>24 Q. Okay. But this by itself</p> <p>25 wouldn't tell you that?</p>

<p style="text-align: right;">Page 98</p> <p>1 I didn't -- you know, I -- you'd really 2 have to go to the census bureau to get a 3 definitive answer on that. 4 Q. Let me rephrase the question. 5 You don't know whether the census bureau 6 does anything to check the accuracy of the 7 response on how one capitalizes one's 8 business; is that right? 9 A. That's not right. I'd have to 10 refer myself to the methodology documents 11 that are out there that detail exactly how 12 these surveys are done and what checks 13 there are. They do all kinds of quality 14 control checks. 15 Whether you're trying to suggest 16 whether somebody lies on the survey and 17 can the census figure that out, I don't 18 know. 19 Q. So let me just -- I had some 20 questions about some of the tables in this 21 part of the report. I don't think they'll 22 take terribly long. In your footnote 47 23 on page 39 I believe you indicated that 24 Native Hawaiians, Asians, Pacific 25 Islanders and subcontinent Asians are all</p>	<p style="text-align: right;">Page 100</p> <p>1 A. I did that because the SBO does 2 it that way. So I missed -- I think I 3 misspoke earlier about that footnote, what 4 was the footnote? 5 Q. Well, why don't you read the 6 footnote and tell me whether it's accurate 7 or inaccurate? 8 A. Native Hawaiians and Pacific 9 Islanders are presented as a distinct 10 category in the SBO. 11 Q. Let me -- 12 A. Right. Because you've got 13 Asians -- in table 3.1 there's an Asian 14 category and there's a Pacific Islanders 15 category. The Pacific Islanders category 16 also has Native Hawaiians. 17 So if you were to combine that 18 into Asians and Pacific Islanders 19 together, but they're presented in the SBO 20 as separate line items. So it may be the 21 phrasing in footnote 47 was a bit 22 inartful, but this is how it's broken out 23 in the SBO. 24 Q. What was inartful about footnote 25 47?</p>
<p style="text-align: right;">Page 99</p> <p>1 grouped together in the two surveys that 2 are part of this -- part of your report. 3 Did I understand that correctly? 4 A. If you said Native Hawaiians, 5 Asians and Pacific Islanders and 6 subcontinent Asians are grouped together 7 as Pacific Islanders, that's correct. 8 Q. Okay. So if you can go to table 9 3.1? 10 A. All right. 11 Q. In this table Asians are given 12 one line and Native Hawaiians and Pacific 13 Islanders are given another line. 14 A. Yes. 15 Q. And I'm -- 16 (Whereupon, simultaneous 17 conversation took place disrupting the 18 record and the court reporter 19 requested one person speak at a time 20 without interruption from anyone 21 else.) 22 Q. So I'm asking how you separated 23 out Asians from Native Hawaiians and 24 Pacific Islanders in your chart in table 25 3.1?</p>	<p style="text-align: right;">Page 101</p> <p>1 A. Well, as I read it here it seems 2 to suggest that I got one category that's 3 Asians and Pacific Islanders that includes 4 Native Hawaiians, but I've actually got 5 two line items for that in table 3.1. I 6 have a line item for Asians and a line 7 item for Native Hawaiians and Pacific 8 Islanders. 9 Q. Okay. So it's not the case as 10 it says in footnote 47 the Native 11 Hawaiians are grouped with Asians; is that 12 right? 13 A. Well, they're grouped with 14 Pacific Islanders. What I was trying to 15 do was differentiate it from the 8(a) 16 categories where Native Hawaiians are 17 included among the Native American 18 grouping. 19 Q. Right. I understand. I'm just 20 trying to make sure I understand your 21 testimony. Footnote 47 says Native 22 Hawaiians are grouped with Asians, but I 23 think if I understand your testimony now 24 you're saying that that's not the case? 25 A. Right. I think I would have</p>

<p style="text-align: right;">Page 102</p> <p>1 been more accurate to say Native Hawaiians 2 are grouped with Pacific Islanders and 3 Pacific Islanders are frequently grouped 4 with Asians in a lot of other government 5 data. 6 Q. Well, I understand, but we're 7 talking about the SBO right now. Okay. 8 So in the next sentence subcontinent 9 Asians are grouped with Asians and Pacific 10 Islanders, is that also incorrect at least 11 insofar as it refers to Pacific Islanders? 12 A. I would say the better way to 13 state footnote 47 would be to say in the 14 SBO and ADS Native Hawaiians are grouped 15 with Pacific Islanders rather than with 16 Native Americans, also subcontinent Asians 17 are grouped with Asians rather than 18 classified separately. 19 Q. Okay. So if you could just turn 20 to page 40 of your report under A dot one, 21 economy wide results. There's a number of 22 references in this part to a table three, 23 which I could not find. So is that an 24 error? So you look, for example, in the 25 second line of the second paragraph?</p>	<p style="text-align: right;">Page 104</p> <p>1 all firms category those kinds of firms 2 are not included? 3 A. Yeah. If I've left something 4 out of the denominator, I leave it out the 5 numerator too. So yes. 6 Q. Well, but if you -- before we 7 leave the numerator/denominator topic. If 8 we add the -- in panel B if we add those 9 percentages, they come out to about 10 75 percent, right? 11 A. Not added them, but 12 that's -- it's not because of the 13 exclusion of the firms listed in item two 14 of the footnote. 15 Q. Okay. What is it attributable 16 to? 17 A. I probably -- line item for 18 women is not there. 19 Q. Okay. 20 A. Or for nonminority women. 21 Excuse me. 22 Q. Say it again? 23 A. The line item for females is not 24 there. 25 Q. Okay. And does that, you think,</p>
<p style="text-align: right;">Page 103</p> <p>1 A. Yes, Mr. Rosman, I think that 2 should be -- should read table 3.1. 3 Q. Okay. And all the other 4 references to table three in this part 5 should they also all read 3.1? 6 A. I would say probably for this 7 part, yes. 8 Q. Okay. Very good. Let's look at 9 table 3.1 now. So reading the footnote, 10 part two of the footnote says that the 11 table excludes publically-owned, 12 foreign-owned and not-for-profit firms. 13 So my question is: Are 14 they -- is that excluded from all of the 15 categories in table 3.1 including the all 16 firms category? 17 A. Yes. What the SBO calls that 18 firms unclassifiable by race. 19 Q. Okay. 20 A. So they're... 21 Q. Why are not-for-profit firms 22 unclassifiable by race? 23 A. I believe because they don't 24 have owners. They usually have boards. 25 Q. And so there's -- even in the</p>	<p style="text-align: right;">Page 105</p> <p>1 constitute most or all of the firms that 2 are included in all firms but not listed 3 in a line item? 4 A. Most but not all. They also 5 have a category for equally male/female 6 owned, equally minority/nonminority owned, 7 those are pretty small bits and they're 8 not broken out there either. 9 Q. Did you do any calculations for 10 the equally minority/nonminority owned 11 firms? 12 A. No, not for this table. 13 Q. Do you recall approximately what 14 percentage of all firms they constituted? 15 A. Some -- a very small number, but 16 I couldn't tell you exactly what. 17 Q. Was it larger than Native 18 Hawaiians and Pacific Islanders or 19 smaller? 20 A. I couldn't say as I sit here. 21 Q. Okay. Was it -- okay. And I 22 assume you'd give me the same answer if I 23 asked you whether it was larger or smaller 24 than the American Indian and the Alaska 25 Native category?</p>

<p style="text-align: right;">Page 106</p> <p>1 A. Well, the American Indian and 2 Alaska Native category is about five times 3 bigger. I'd probably say definitely 4 smaller than that category, but again, I 5 wouldn't -- I couldn't tell you the number 6 for sure without checking it out. 7 Q. So most of the omitted firms 8 were nonminority women-owned businesses? 9 That is to say -- and by omitted firms I 10 mean included with all firms, but not 11 separately identified as a line? 12 A. I want to say, and without going 13 back and checking I can't say for sure, 14 but I think the SBO actually their 15 category is women as a whole. So that 16 would be minority and nonminority women as 17 their line item. 18 So -- you know, then those 19 numbers really would never add up to 100 20 percent because as you pointed out earlier 21 the minority categories have males and 22 females in there, but I think the SBO -- 23 and I could be wrong I'd have to double 24 check, but I don't think their line 25 item -- I think their line item was for</p>	<p style="text-align: right;">Page 108</p> <p>1 or other publication restrictions, but I'm 2 not sure to what part of the chart that 3 applies. Maybe you could identify it for 4 me? 5 A. I -- you'll actually in this 6 chart, which is all industries for the 7 United States as a whole, it doesn't show 8 up. It does show up in the next table in 9 some categories so that probably didn't 10 have to be in that note, but the business 11 bureau won't publish data if it's in such 12 a small category that it might allow 13 somebody to identify individual 14 respondents. 15 Q. So it's a applicable to table 16 3.2, but not this table; is that right? 17 A. Yes. 18 Q. Okay. So there's also -- I 19 think we spoke about capacity measures 20 earlier on. There's no effort in this 21 chart at least to try to control for any 22 measure of capacity; is that right? 23 A. Again you're not defining 24 capacity so I'm not sure -- 25 Q. Let me rephrase. You know, the</p>
<p style="text-align: right;">Page 107</p> <p>1 women, period, and not nonminority women. 2 Q. Okay. Well, I guess I have the 3 same -- let me just make sure I understand 4 it. Women-owned firms -- a firm owned by 5 Hispanic woman would be included in the 6 Hispanic category? 7 A. Yes. 8 Q. And so if we included the all 9 women firm it would add up to something 10 more than 100 percent? 11 A. I think that's right. 12 Q. So and -- well, I guess you're 13 going to have the same question I asked 14 before which is, how do we know from this 15 chart that any disparities that you see 16 are not attributable to sex? 17 A. Well, you're free to look at 18 this chart in isolation. That's not how I 19 did it. As an economist the document I 20 look at as a whole. It's a good question 21 and one I try to tackle directly in the 22 next section. 23 Q. Okay. So the last part of the 24 footnote says that, N-A indicates the data 25 was not disclosed due to confidentiality</p>	<p style="text-align: right;">Page 109</p> <p>1 ability to do a job as capacity because of 2 your capital or your number of employees 3 or something like that. So let's call it 4 ability to do the job and define it that 5 way. 6 A. Well, there's a number of 7 columns in this table that speak to that. 8 There's -- it shows you firms -- column 9 three is just firms with paid employees as 10 opposed to column one, which is all firms; 11 column five shows you the number of 12 employees; column six shows the payroll 13 levels. So there's all kinds of... 14 Q. Maybe I need to rephrase the 15 question then. The disparity indices 16 don't take that into account though, 17 right? 18 A. The some -- vague idea of the 19 ability to do work, no. 20 Q. Okay. Well, I mean let me give 21 you an example. Your -- by the way before 22 I do that, panel C says these are 23 disparity ratios. Can you tell me why you 24 put disparity ratios instead of disparity 25 indices?</p>

<p style="text-align: right;">Page 114</p> <p>1 Q. Correct? Is that right?</p> <p>2 A. Yes.</p> <p>3 Q. Okay. And in footnote 51 you</p> <p>4 say you derive that by -- in panel A</p> <p>5 dividing column four by column three.</p> <p>6 Column four is sales and receipts.</p> <p>7 A. It should be column six by</p> <p>8 column three, also a mistake.</p> <p>9 Q. Oh, okay. So the figures that</p> <p>10 you have on page 51 are not using this</p> <p>11 formula in footnote 51 but six by three;</p> <p>12 is that right?</p> <p>13 A. Yes.</p> <p>14 Q. Why would that give you average</p> <p>15 salary per employee though? I'm still</p> <p>16 confused by it.</p> <p>17 A. Average payroll per employee.</p> <p>18 Q. Okay. How does it give you</p> <p>19 payroll by employee?</p> <p>20 A. -- six by column three. No, it</p> <p>21 should be six by five.</p> <p>22 Q. Okay. So it's not six by three</p> <p>23 either. It's six by five?</p> <p>24 A. Six by five. I'm sorry.</p> <p>25 Q. So average payroll by employee</p>	<p style="text-align: right;">Page 116</p> <p>1 A. I also run out of the space on</p> <p>2 the table. So it's there implicitly. You</p> <p>3 could actually do that calculation</p> <p>4 yourself with the data in the table if you</p> <p>5 wanted to.</p> <p>6 Q. That might be a way to control</p> <p>7 for firm size since all the firms would be</p> <p>8 exactly the same size?</p> <p>9 A. Only in terms of employment.</p> <p>10 Q. That's what I meant.</p> <p>11 A. Yeah.</p> <p>12 Q. Okay. Why don't we move to</p> <p>13 table 3.2. My first question is: Why did</p> <p>14 you limit your analysis in table 3.2 to</p> <p>15 two digit NAICS codes?</p> <p>16 A. This is a national survey and</p> <p>17 it -- that is the -- you know, that's</p> <p>18 really the best level of national detail</p> <p>19 that allows you to do a complete table.</p> <p>20 Q. Did the SBO data not go into any</p> <p>21 further detail or any further NAICS codes?</p> <p>22 A. I believe it does in certain</p> <p>23 cases, but then you start to run into a</p> <p>24 lot of those NAs.</p> <p>25 Q. Well, I mean it looked like for</p>
<p style="text-align: right;">Page 115</p> <p>1 is calculated by dividing column six in</p> <p>2 panel A by column five in panel A; is that</p> <p>3 right?</p> <p>4 A. I think that's right. Yes.</p> <p>5 Q. During your preparation of this</p> <p>6 report, did you calculate any disparity</p> <p>7 indexes for nonemployer firms?</p> <p>8 A. Not separately. The column one</p> <p>9 includes employer firms and nonemployer</p> <p>10 firms --</p> <p>11 Q. I got that. But --</p> <p>12 A. -- didn't break out that</p> <p>13 nonemployer category. I could have but I</p> <p>14 didn't.</p> <p>15 Q. Is there a reason why you</p> <p>16 didn't?</p> <p>17 A. It's implicit. You could do it</p> <p>18 from the table. It's the difference</p> <p>19 between column three and column one is</p> <p>20 nonemployer firms, and the difference</p> <p>21 between column four and column two is</p> <p>22 nonemployer sales but I don't know, no big</p> <p>23 secret reason or anything. I just didn't</p> <p>24 do it.</p> <p>25 Q. That might be a --</p>	<p style="text-align: right;">Page 117</p> <p>1 example in professional services that</p> <p>2 there was something along the lines of</p> <p>3 2.3 million firms. Did I read that</p> <p>4 correctly?</p> <p>5 A. Yes.</p> <p>6 Q. And you're saying that if you</p> <p>7 broke it down further it would be reduced</p> <p>8 by such a number that the census bureau</p> <p>9 might not be able to provide you with the</p> <p>10 data?</p> <p>11 A. No, Mr. Rosman. Perhaps I could</p> <p>12 have. I just didn't. If you look at the</p> <p>13 table the two digit NAICS code right above</p> <p>14 that, there's only 16,000 observations. I</p> <p>15 think it was really for a matter of</p> <p>16 consistency across categories. It might</p> <p>17 very well be possible to break it down</p> <p>18 further.</p> <p>19 Q. Okay.</p> <p>20 A. But...</p> <p>21 Q. So let me make sure I understand</p> <p>22 the statistics. Let's look at the</p> <p>23 professional services NAICS 54 panel. So</p> <p>24 the three asterisks next to the disparity</p> <p>25 indices indicate that those are</p>

<p style="text-align: right;">Page 162</p> <p>1 testimony that some of the 53,000 initial 2 records never got used in the report 3 because you didn't want to, I think you 4 said, muddy the waters by including them. 5 Could you explain a little bit 6 more what you meant by that? 7 A. Yeah, muddy the waters maybe 8 isn't the right phrase. It was more to 9 keep things clear and understandable in my 10 own mind as much as anything else. I 11 think I mentioned there were -- 12 I'll just take a hypothetical 13 study that would have looked at all the 14 contracts in construction, all the prime 15 contracts in construction and all the 16 subcontracts in construction. 17 But then went further and 18 divided the construction contracts up into 19 contracts over \$200,000, contracts under 20 \$25,000, contracts between \$25,000 and 21 \$200,000 or contracts that were subject to 22 MBE goals versus contracts that weren't 23 subject to MBE goals. 24 I think looking at those 25 statistics would all be interesting in</p>	<p style="text-align: right;">Page 164</p> <p>1 consistent across the studies -- the 205 2 studies and what was being measured as it 3 could be and save those other records for 4 an analysis for another day. 5 Q. So would it be fair to say that 6 that data was excluded because it was not 7 necessarily consistent with what you were 8 trying to doing with your analysis? 9 A. Yes. 10 MR. ROSMAN: Objection to form. 11 Q. So for the disparity studies in 12 the group of 205 that you looked at that 13 didn't use statistical significance 14 testing, do you think the evidence from 15 those studies is still reliable? 16 A. Yes. That was the whole point 17 of doing the metaanalysis was to see what 18 we could learn regardless of the -- some 19 significant differences between the 20 studies and how they were performed. 21 They were done by different 22 consultants, at different points in time, 23 with different levels of resources and 24 using different methodologies for either 25 assessing statistical significance or not,</p>
<p style="text-align: right;">Page 163</p> <p>1 their own right, but I was -- I didn't 2 want to be asked a question possibly, 3 well, if you included these others, how 4 did they make the resulting disparities 5 larger or smaller or change them. 6 And so I was trying to come 7 up -- those 27,000 records are -- you 8 know, roughly all looking at the same kind 9 of items in those disparity studies 10 because not all studies looked at 11 contracts with and without goals or broke 12 contracts down by size categories or just 13 looked at federal funding versus state 14 funding. 15 And since none of those issues 16 as far as I knew were really at issue in 17 this report, I took them out. I 18 didn't -- I don't even know what the 19 results would be if they would be stronger 20 or weaker or different at all if I 21 included those. 22 It's not like I ran the results 23 and didn't like them and threw that stuff 24 out. I just was trying to come up with a 25 data set that -- you know, really was as</p>	<p style="text-align: right;">Page 165</p> <p>1 or measuring availability and -- you know, 2 that was kind of the whole point of my 3 metaanalysis is to see -- you know, what, 4 if anything, we could learn regardless of 5 some of those differences or something you 6 might be able to critique about any single 7 study standing alone. 8 Q. Earlier Mr. Rosman asked you 9 about whether NERA studies account for 10 capacity and you mentioned that you don't 11 know if capacity, as Mr. Rosman defined 12 it, then could be measured. 13 Would you explain a bit more 14 what you meant by that? 15 A. Well, I think I'm not sure it's 16 fair to say Mr. Rosman actually defined 17 it, but he gave me an example, I believe, 18 which was the ability to do work, which is 19 not something I'm aware of any statistical 20 measure of. 21 You know, it's like 22 qualifications. There's all different 23 aspects to qualifications and capacity. I 24 tried to control for and include as many 25 as I could in the different sections of</p>

<p style="text-align: right;">Page 166</p> <p>1 the report. I can do that better in -- 2 with some data sets than with others. 3 So in the PUMS data there's all 4 kinds of additional variables that speak 5 to qualifications and capacities that I 6 was able to include. Some of the 7 disparity studies attempt to directly 8 incorporate capacity into their measures 9 or whatever capacity means. 10 It means different things for 11 different consultants and different 12 attorneys. But -- you know, some 13 disparity study consultants try to 14 incorporate some aspects of capacity 15 directly into their availability measures. 16 And I -- you know, we looked at 17 those as well. I have my own way of doing 18 it and I think I've outlined -- you know, 19 in great detail how and why I choose to do 20 it that way, but the main reason is to 21 avoid including variables that themselves 22 could be negatively impacted by 23 discrimination. 24 So to try to measure and test 25 for the presence of discrimination by</p>	<p style="text-align: right;">Page 168</p> <p>1 I mean you're not in business 2 unless you're trying to do business, by 3 and large, and further in the regression 4 analyses in those NERA studies, there's 5 all kinds of different measures in 6 qualifications and capacity. Human 7 capital or education levels being one of 8 the most important. 9 Q. In your opinion, do you believe 10 the disparities you talked about earlier 11 in tables 2.2 to 2.8 could be caused 12 exclusively by sex discrimination? 13 A. No. That's -- having researched 14 in this area for over a quarter of a 15 century now or maybe a third of a century, 16 I would say absolutely not. 17 I see evidence routinely of both 18 kinds. It's also the case and this is 19 just anecdotal as I sit here today but 20 most of those ethic groupings, the 21 majority of businesses in those groupings 22 by race and ethnicity are male. 23 So to -- you know, the concept 24 that somehow there is -- no race 25 discrimination and sex discrimination is</p>
<p style="text-align: right;">Page 167</p> <p>1 using variables that are themselves 2 potentially subject to discrimination, 3 like, most economists will tell you is 4 wrong headed. 5 So -- you know, that's why I did 6 what I did, but again, the purpose of the 7 metaanalysis was to say -- you know, all 8 those different approaches are welcome. 9 Let's see if we can determine any 10 commonalities across these studies despite 11 that or did they all reach completely 12 different conclusions. 13 Q. Are some measures for capacity 14 as you might define it included in your 15 studies? 16 A. Yes. 17 Q. How would you define capacity? 18 A. Well, again, I don't know that 19 there's a single definition but we, for 20 example, in our measures of availability 21 we're only looking at firms that are 22 currently in business, in the relevant 23 geographic market, in those relevant NAICS 24 codes, product markets that matter, all of 25 those things speak to capacity.</p>	<p style="text-align: right;">Page 169</p> <p>1 exclusively driving the results I'm seeing 2 does not comport with my own experience as 3 a researcher over all that time, nor does 4 it I think mathematically make sense 5 because women still tend to be 6 significantly less than half of the 7 businesses in those ethic categories. 8 Q. Just to confirm one point in 9 your answer, were you saying to your 10 knowledge that the majority of those -- of 11 the businesses in the data sets were owned 12 by men? 13 A. You broke up a little bit there. 14 Q. I was just trying to confirm. 15 Were you in your answer saying that the 16 majority of the business you looked at in 17 the data that you studied were owned by 18 men? 19 A. Yes. 20 Q. In your opinion do you believe 21 the disparities in tables 4.1 to 4.9 could 22 be caused exclusively by sex 23 discrimination? 24 A. No. 25 Q. Just stepping back a moment as</p>